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THE Journal of the Society of Arts, AND OF THE INSTITUTIONS IN UNION.

111TH SESSION.]

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Announcements by the Council.

CONVERSAZIONE.

The Council have arranged for a *Conversazione* on Wednesday, the 14th June, at the South Kensington Museum, cards for which have been issued.

DINNER.

Some of the Vice-Presidents and Council propose to dine together on Monday, the 26th inst. Any Members of the Society desiring to join the party are requested to communicate with the Secretary forthwith.

Tickets (one guinea each) will be ready for delivery at the Society's house on and after Friday next, the 16th inst., but application should be made without delay, in order to facilitate the arrangements.

ANNUAL CONFERENCE.

The Fourteenth Annual Conference between the Council and the Representatives of the Institutions in Union and Local Boards will be held on Wednesday next, the 14th June, at Twelve o'clock, noon. WILLIAM HAWES, Esq., Chairman of the Council, will preside.

Secretaries of Institutions and Local Boards are requested to send, as soon as possible, the names of the Representatives appointed to attend the Conference.

The Council will lay before the Conference the Secretary's Report of the Proceedings of the Union for the past year, and the Results of the Examinations, as well as the Programme of Examinations, Elementary and Final, for 1866.

The following subjects are suggested for discussion :—

1. The establishment of organising teachers among the Institutes, on the plan adopted in the East Lancashire Union.
2. Is any modification of the present scheme of Elementary Examinations, by rendering it more adapted to the capacities of class pupils in Mechanics' Institutes, desirable?
3. The advantages of local prizes to successful candi-

dates, at the Society of Arts' Examinations, as a stimulus to local competition.

4. Whether any special inducements can be held out to lead soldiers to avail themselves of the Society's Examinations? [See the subjoined correspondence with His Royal Highness the Field-Marshal Commanding-in-Chief.]

5. The propriety of adding to the Society's Examinations the subject of "Practical Gardening," in accordance with a proposal made to the Council by the Royal Horticultural Society, who have expressed their willingness to offer prizes in this subject.

6. How can Institutions promote the Physical Education of their members?

7. How may Popular Readings and Entertainments be made to promote the efficiency of Institution Classes?

8. The advantage of Garden Allotments, as a feature of the Institute, with the view of healthful recreation for the members.

9. Should Institutes promote the establishment of Horticultural Shows, Building Societies, Penny Savings Banks, and similar movements towards the social amelioration of the people?

10. The advantages and disadvantages of subscriptions to Institutes being paid by weekly or other small amounts.

Notice should be given to the Secretary of the Society of Arts of any other subjects which Institutions or Local Boards may desire their Representatives to introduce to the notice of the Conference.

Representatives of Institutions and Local Boards attending the Conference are invited to the Society's *Conversazione*, at the South Kensington Museum, on the evening of the same day (14th June), and will receive cards on application at the Society's House, on the day of the Conference.

Secretaries of Institutions are requested to forward, *at once*, by book post, copies of the last Annual Reports of the Institutions.

EXAMINATION OF SOLDIERS.

The following documents have been forwarded to the District Unions, Local Boards, and other Institutions connected with the Society :—

The first is a letter to Field-Marshal His Royal Highness the Commander-in-Chief of the Army, from Mr. Harry Chester, inquiring whether his Royal Highness would see any objection to his announcing, at a public meeting then intended to be held at Knightsbridge,

that the examinations and classes held by the Boards and Institutions connected with this Society, were open to soldiers, their wives, and children, as well as to civilians of the working classes. It will be seen that Mr. Chester, though asking this question for his own guidance, couches it in such general terms, that the answer will serve equally for all others engaged in carrying out the scheme of examinations wherever the Society has Local Boards in any part of the kingdom. The letter was referred by the Commander-in-Chief to the Council of Military Education, for their consideration and report.

The second document is General Forster's reply to the above-mentioned letter. Before this reply was given, Mr. Chester's illness had compelled him to go abroad, under strict injunctions to abstain entirely from business, and there was no means of making known the correspondence until it was too late for the examinations of 1865.

The third document is an official memorandum recently published by command of His Royal Highness, to the same effect as General Forster's letter. The authorities of the District Unions, Local Boards, and Institutions connected with the Society will naturally see the propriety of abstaining from addressing themselves directly to the troops quartered in any place, and will in every case apply to the commanding officer, and leave it to him to determine whether and in what manner the subject shall be brought to the notice of those under his command.

I.

63, Rutland-gate, Dec. 30, 1864.

SIR,—Your Royal Highness is probably acquainted with the measures which have been taken by the Society of Arts since the Great Exhibition of 1851, to promote the education of adults of the working-classes employed in "Arts, Manufactures, and Commerce."

The Society's "Union" of Institutions for the education of adults embraces about 1,000 Institutes, Evening Schools, and "Local Boards." The latter, about 150 in number, have been called into existence expressly to carry out the scheme of educational examinations which has been established by the Society and the Institutions united thereto.

His Royal Highness the Prince Consort was pleased to take a lively interest in this scheme; and a prize of 25 guineas, which he established, "The Prince Consort's Prize," is now given annually by Her Majesty the Queen.

The scheme extends to all parts of the United Kingdom wherever a local board can be formed.

In many parts of England district unions have been formed for the better carrying out of the scheme.

A district union, called the Metropolitan Association for Promoting the Education of Adults in Union with the "Society of Arts," was formed about two years ago. Of this Association His Royal Highness the Prince of Wales (President of the Society of Arts) is patron and a life member; and Her Royal Highness the Princess of Wales is patroness, and gives an annual prize to female candidates. Earl Granville is President.

The examinations are of two kinds. There are examinations of persons not under 16 years of age, in 82 different subjects, by examiners appointed by the Society of Arts, and preparatory examinations, of persons not under 12 years of age, in elementary subjects by examiners appointed by the Association and by the Local Boards. There are also collateral examinations in religious knowledge.

I enclose, for the information of your Royal Highness, programmes of the several examinations.

The Metropolitan Association has divided the metropolitan district into sub-districts, each sub-district having or to have its "Local Board," so that the advantages of the examinations, certificates, prizes, &c., may be brought within easy reach of the working classes everywhere in and near to London.

Boards have been already formed in the neighbourhood of some of the barracks, and a Board is to be formed immediately in this neighbourhood, near to the cavalry barracks.

It has struck me that it might be a great advantage and encouragement to the soldiers there (and in other

barracks), and might tend to strengthen the excellent system of regimental and barrack instruction which your Royal Highness has already introduced, if, with the sanction in each case of the commanding officer, the soldiers, their wives, and children, not under 12 years, were invited to offer themselves for examination, and to compete for the various prizes, in common with the civilians who stand on the same social level. I do not venture, however, to say anything publicly on this subject without first understanding that it would not seem to your Royal Highness to be inexpedient that I should do so.

Finding that the "Instruction Classes" among the metropolitan police were desirous to profit by the examinations, I communicated with Sir Richard Mayne before I invited the men to present themselves.

With great respect, I submit the subject to your Royal Highness.

My wish is to be informed whether there would seem to be any objection to my stating, at the approaching public meeting for the establishment of the Local Board at Knightsbridge, that I hope the soldiers in the barracks, with their wives and children, may profit by the advantages which the Board will offer to the neighbourhood.

I have, &c., HARRY CHESTER.

To Field Marshal H.R.H. the Duke of Cambridge, K.G.

II.

Horse Guards, March 1, 1865.

SIR,—The Field Marshal Commanding-in-Chief, having had under his consideration the proposition which you made to him on the 30th of December last, I am directed by his Royal Highness to inform you that there will be no objection to soldiers being permitted to present themselves, their wives, and children, for instruction and examination at the Educational Institutes in connexion with the Society of Arts, wherever these institutions may be established in the neighbourhood of their barracks, on the distinct understanding, however, that soldiers are not in consequence to be exempted from military duty.—I have the honour to be, Sir, your obedient servant,

Harry Chester, Esq., &c.

W. F. FORSTER.

III.

The following circular memorandum (Gen. No. 331), addressed to the army at home, has been issued:—"Miscellaneous 1 (1865).—The Field Marshal Commanding-in-Chief desires it to be notified that there will be no objection to soldiers, their wives, and families, being permitted to present themselves for instruction and examination at the Educational Institutes in connection with the Society of Arts, on the understanding that they are not on that account to be exempted from any military duty, nor, except in special cases, to be out of barracks after watch-setting or tattoo.—By command of his Royal Highness the Field Marshal Commanding-in-Chief, JAMES YORK SCARLETT, Adj. Gen.—Horse Guards, S.W., 11th March, 1865."

NOTICE TO MEMBERS.

A working model of Mr. H. W. Reveley's direct-acting steam tilt-hammer, described in the current volume of the *Journal* (page 141), will be shown in action at the Society's House, on Friday, the 16th inst., at 11 a.m., when the attendance of members is invited.

FINAL EXAMINATIONS, 1865.

The following are corrections in the list of successful candidates:—

In No. 871.—Binnie, James, omit "French (1st), with 1st Prize," he not having worked a paper in that subject.

In No. 372.—Laughland, James, after French (1st), add "with 1st prize."

Insert No. 373.—Michaelson, Maximilian, 18, Glasgow Ath., clerk—French (1st)

Proceedings of Institutions.

HALEY-HILL WORKING MEN'S COLLEGE.—The tenth annual report, after giving a slight review of the original aims for which the college was founded, and the results which it had attained, states that during the ten years of its existence the college had fulfilled the objects of its founder. Commenced for the improvement of Haley-hill and the neighbourhood, its operations had extended to the whole of Halifax and the adjacent districts, whilst the branch at Copley had brought its advantages to the very doors of the inhabitants of that pretty village. The records of the trades and residents of the students showed that the operations of the college had been chiefly confined to the *bona-fide* working classes; and the measure of success attending the scheme was evident from the number of certificates gained in national competition from the Society of Arts, and the examinations of the Government Department of Science and Art, as well as by the valuable situations now held by many who had been under instruction in the classes. But the past had not been so satisfactory a year as several of its predecessors. The great prosperity which of late had been the portion of the working classes of Halifax and the neighbourhood had not been favourable to the success of the higher classes of the college, in consequence of so many working overtime, &c. A social economy class had been formed, both in the senior and middle divisions of the college, to which the committee attached much importance, considering it valuable in helping the students to understand many of the important questions relative to employers and workmen which were seeking solution at the present day. The young women's institute carried on its useful career in new premises. The removal of the college classes from the Haley-hill schools left those rooms at liberty, and the Principal allowed them to be appropriated to the use of the young women's classes. A second examination in scripture, domestic economy, dictation, history, geography, and arithmetic had been held, and the results, on the whole, were very satisfactory. Most of the students voluntarily took the papers, which were very creditably answered. In both of the Copley branches the work was going on well, and the comparative positions of the students of both on the class lists of the examiners showed most careful and steady working. The young men of Copley did not, however, generally take so much advantage of the opportunities for self-improvement thus offered to them as the young women. The report of the Rev. C. F. Routledge, M.A., her Majesty's inspector of schools, in reference to the Working Men's College, said—"This institution is doing its work admirably. The scholars read with great intelligence, write a neat, legible hand, and work their sums very correctly." Of the young women's institute, the inspector said—"The girls and young women have been patiently and carefully taught in all elementary knowledge, and give great promise of usefulness. The working men's college and young women's institute are doing a very great deal of good in Halifax, and are prospering very satisfactorily."

MUSICAL EDUCATION ON THE CONTINENT.

The Musical Education Committee [see page 287] have held several meetings since their appointment. One of the first steps taken by them was to request the Council to communicate with Earl Russell, Secretary of State for Foreign Affairs, with the view of obtaining, through the Foreign Office, various particulars with regard to the principal musical conservatoires on the continent, the authorities of which have, in many cases, most courteously supplied the desired information.

The Council being of opinion that abstracts of some of the documents thus received would be interesting to

the members generally, have directed their publication in the *Journal*.

There are regular colleges, or, as they are termed abroad, conservatoires, for instruction in the various branches of musical art; some entirely depending for their support upon, and under the immediate control of, the Government; and others more or less independent of State support or external authority. The largest of these institutions is the Conservatoire of Paris, maintained with the utmost liberality by the Government, and under the control of the Minister of Public Instruction. And it appears to have amply repaid both the munificence and the administration provided by the Government in the excellence of its pupils and the general effect of the extension of musical taste and knowledge throughout France as an element of social progress.

The establishment of orpheonic or choral societies throughout France, equally under the control of the Government, has also greatly tended to this beneficial result.

The Conservatoire at Leipsic has attained a great celebrity by its instruction in the deeper and more fundamental science of Harmony and Composition.

MUSICAL EDUCATION IN BAVARIA.

There is a Royal Conservatoire of Music at Munich, founded A.D. 1846. It receives a subvention from the Government of 7,000 florins—about £583. The students pay as follows:—Beginners pay 50 florins [about four guineas] per annum, from which there is no immunity. Students of the higher course pay 100 florins [eight guineas]. If natives, some are partly, or entirely, free from payment. The course of instruction is for three years. There are no boarders, and from eighty to ninety male and female pupils. The conservatoire is under the immediate control of the Minister of Public Instruction.

The Musical Institution at Würzburg is more for vocal instruction than the former. It receives a subsidy of 3,880 florins [about £323] from the State, and 347 florins [£29] from the Academy of Würzburg. The students are taught gratuitously; the number is about 150, including a great many amateurs.

Music is taught in all public schools of a higher class in Bavaria, and is obligatory in the seminaries for the education of teachers. In other schools musical instruction is optional, but in the middle schools, special music masters are appointed and salaried from the school funds, the pupils paying no fees for music.

THE CONSERVATOIRE OF LEIPSIC.

This institution is supported by various legacies, a small subscription from the King, and fees from the pupils. It receives no funds from the Government or municipality, and is therefore independent of state or civic control. It has rooms in the "Gewandhaus" at a nominal rent, but the repairs and alterations cost 6,000 thalers [£900]. It was opened at Easter, A.D. 1843, with 44 pupils.

The governing body consists of five directors, appointed by the King and Home Minister. The Minister of Public Instruction is *ex-officio* a director, and one director is a descendant of the founder, Herr Blumner. None of the directors are educated musicians, and the president is a retired lawyer.

The salary of the first director, Herr Schleinitz, is 1,000 thalers, £150. There are twenty teachers, who receive, on an average, £70 per annum. The teachers are engaged, some annually, and some only by the hour.

The following statement shows the funds from which the Academy is supported:—

	Thalers.	£	s.
1. The Blumner legacy, 20,000 thalers, at 4 per cent	800 ..	120	0
[The trustees appoint one director]			
2. From the King's privy purse . . .	200 ..	30	0
[Given to six scholarships free to Saxons.]			

3. Miscellaneous legacies, 2,550 thalers, at 4 per cent.	102 ..	15 6
4. The Helbig legacy, 1,000 thalers, at 4 per cent.	40 ..	6 0
[This is given in premiums and musical publications as prizes]		
5. The Frege legacy, 2,000 thalers, at 4 per cent.	80 ..	12 0
[Which provides half the charge for the education of two students.]		
6. The Mendelssohn legacy, 1,800 thalers, at 4 per cent.	60 ..	9 0
[Given as a prize to the best pupil]		
7. 143 pupils, at 80 thalers, £12 each.	11,440 ..	1,716 0
	12,722 ..	£1,908 6

The complete course of Theoretical instruction is for three years. It consists of:—

Harmony, nine classes—First year, harmony and part writing; second year, harmony and counterpoint; third year, harmony, double counterpoint, and fugue.

Form and Composition, five classes. Oral instruction and exercises; vocal and instrumental composition; analysis of classical musical works.

Playing from score; conducting, with practical exercises.

Italian language for solo singers.

There are besides lectures on various musical subjects, the æsthetics of music, &c.

Singing—solo and choral—four classes.

Instrumental playing:—1. Pianoforte; twenty classes. 2. Organ; four classes. 3. Violin and viola; solo, quartett, and orchestral; eight classes. 4. Violoncello; three classes. 5. Declamation for singers; two classes. 6. Solo playing, with accompaniment and *ensemble* playing. 7. Practice in public performance.

Instruction in the double bass and wind instruments is only given for extra fees, but it is under the control of the director. The pupils furnish their own instruments, music, and books.

Besides the above instruction, the pupils are afforded the following advantages:—They are admitted gratuitously to the rehearsals of the "Gewandhaus" concerts and to the quartette concerts, and those who are qualified play in the concerts at the gewandhaus, the oratorios, and other church performances with a large orchestra.

The musical education of France may be classified as follows:—

1.—*Superior Instruction*.—Conservatoire of Paris. Provincial Conservatoires.

2.—*Secondary Instruction*.—Lyceums and colleges.

3.—*Primary Instruction*.—Primary Normal Schools; Commercial Schools; the Orphéon Institute of Paris; courses for adults; Choral Societies and Free Orpheonic Societies.

IMPERIAL CONSERVATOIRES FOR MUSIC AND DECLAMATION IN PARIS.

The Director presides over the artistic branch; a Manager and Secretary assist him in the details of the general organisation. An Imperial Commissary overlooks the whole establishment, in connection with the Government.

More than six hundred out-door students attend the classes of the Conservatoire. The education is entirely gratuitous.

The attendance of pupils is registered by an Inspector of Classes.

Ten male students are admitted as boarders on the foundation; they are selected entirely from the best voices. The boarding establishment is under a superintendent. Two physicians are attached to the establishment. Ten female students are on the foundation, but board out; they only attend the singing classes.

The following is the List of Classes:—

- 4 Classes for Fugue, Counterpoint, and Composition.
- 5 Classes for Harmony.

8 Classes for Singing.

6 Classes for Single Solfeggio.

8 Classes for Single Solfeggio taught by under-masters.

3 Classes for Concerted Solfeggio.

2 Classes for Opera Instruction.

4 Classes for Comic Opera.

5 Classes for Declamation.

1 Class for Theatrical Department.

1 Class for Fencing.

1 Class for Popular Singing.

Evening classes for adults; chorus singing without accompaniment.

1 Class for Organ.

6 Classes for Pianoforte.

5 Classes for Clavier.

1 Class for Orchestral playing.

4 Classes for Violin.

2 Classes for Violoncello.

1 Class for Double Bass.

1 Class for Harp.

1 Class for Flute.

1 Class for Hautboy.

1 Class for Clarionet.

1 Class for Bassoon.

1 Class for French Horn.

1 Class for Trumpet.

1 Class for Trombone.

There is a branch of the Conservatoire for military students training for bandmasters in the army.

2 Classes for Harmony and Composition.

1 Class for Cornet-à-Piston.

1 Class for Sax-horn.

1 Class for Saxophone.

2 Classes for Solfeggio.

There is a committee for musical education, of fifteen members, and a committee for dramatic education, of fifteen members, the director being president of each.

A library is attached to the Conservatoire, under the superintendence of a librarian and sub-librarian. It is open daily (Sundays excepted) to the students and the public. It contains ancient and modern works, MS. and printed, and receives a copy of every new musical publication.

A museum of musical instruments, ancient and historical, under a curator, is open Sundays and Thursdays. Male and female students are instructed separately. The professors are "titulaires et agrégés." The former receive higher salaries, the maximum being 2,500 francs. The professors for occasional instruction and for rehearsals have no salaries. All the expenses of the Conservatoire are defrayed by Government. The total expense in 1859 was 181,000 francs. Since 1859 it has not diminished. This year 20,000 francs extra will be demanded.

There are several provincial conservatories in connexion with that of Paris; at Lille, founded in 1826; at Toulouse; at Marseilles, founded in 1841; at Metz, in 1841; and at Nantes.

The Toulouse Academy is the most important. The director is appointed by the minister, has a salary of 2,000fr., and has lodgings found. The professors receive 1,400fr., and are named by the prefect on the recommendation of the Government inspector. There are two singing-classes (male and female), several solfeggio classes, two classes for pianoforte, one class for violin, one class for violoncello. It receives a subvention of 5,000fr. from Government. The town pays the rest.

The Lille Academy is chiefly for instrumental instruction. There are classes for bassoon, French horn, trumpet, flute, hautboy. It has a subscription of 4,000fr. The town supplies the rest.

The academies of Metz and Marseilles have no subvention from the state. The former is on a large scale, and has been very successful. There are other schools of music at Avignon (which costs the town 5,000fr.),

Bordeaux, Dijon, Carcassone, Montpellier, Strasbourg, Valenciennes. All these are independent of the Paris Conservatoire, have no subvention from the state, and are maintained by the municipalities or private associations. An inspector general visits the provincial academies at the expense of the Paris Conservatoire.

With regard to *Secondary and Primary Instruction*, a recent decree (Jan. 30, 1865) has reorganised as follows the teaching of music in the Lyceums and normal schools of the empire:—

ARTICLE I.—Instruction in music is obligatory with all pupils of the primary normal schools. Also in "plain song" for the Catholic pupils, and religious music for those of other communions.

ARTICLE II.—It embraces the following subjects:—

1. The elementary rudiments of music and singing. Reading, writing, and musical dictation.
2. The elementary principles of "plain song," elementary instruction on the organ. The pianoforte may be employed as a substitute for the organ.
3. Elementary study of accompaniment.

These subjects are divided as follows in three years of study:—

First Year.—Elementary principles of music. Instruction in the delivery of the voice, respiration, and on the classification of voices. Lessons on the clefs of sol and fa, on the major and minor keys, and on the musical measures mostly in use. Theoretical instruction on the other clefs and measures.

Second Year.—Continuation of the exercises, writing music from dictation, execution of pieces for several voices, elementary instruction in plain song, notation, the modes, reading with words, elementary exercises on the mechanism of the pianoforte and organ, the scales in the major and minor keys.

Third Year.—Continuation of exercises in music and plain song, elementary study of accompaniment, specially with a view to the accompaniment of the plain song, reading easy pieces harmonised and the accompaniment of the plain song, the melody given either to the bass or the upper part.

ARTICLE IV.—Five hours per week are devoted to lessons in music and plain song in each of the three years. The time given in the intervals of the lessons to the study of the pianoforte and organ is taken from the hours of recreation and between the church services on Sundays.

ARTICLE V.—The organ, harmonium, and pianoforte are the only instruments employed for musical instruction in the primary normal schools.

ARTICLE VI.—Instruction in music is obligatory in the Lyceums for all the pupils of the inferior classes up to the fourth inclusive. It is optional for pupils of the third class and above.

ARTICLE VII.—The instruction is obligatory in the following subjects:—Elementary principles of music and singing, reading, writing, and musical dictation. The final object of this education should be reading in all the major and minor keys with the times most in use, and the execution of pieces of moderate difficulty for one or several voices.

ARTICLE VIII.—The optional instruction may include, besides the subjects which are obligatory, the elementary principles of harmony.

ARTICLE IX.—Instrumental music will be taught to individuals at the expense of their families.

ARTICLE X.—Two hours a week are devoted in this division to the obligatory musical instruction, Sundays and hours of recreation excepted. The pupils are taught in several courses according to their progress, and not according to the classes to which they may belong.

ORPHEONS OF THE CITY OF PARIS.

A Commission, consisting of musical notabilities, and presided over by a member of the Municipal Council,

examines the questions relating to the teaching of singing in the schools of the city of Paris.

This Commission decides on the method which should be adopted by the professors, regulates the pieces of music which are to be sung by the pupils, examines the candidates for places as professors of music in the schools of the city, and gives judgments on the competitions between the professors elected.

There are 234 schools in which music is taught on both banks of the Seine. The personality of the musical education in the schools is composed as follows:—

Two directors (one for the right bank, one for the left) each at 6,000fr. Two inspectors (one for the right bank and one for the left) at 3,600fr. Forty-four teachers and six supplementary teachers at the following salaries:—Each professor receives 200fr. for each school in which he teaches singing. A professor has the charge of a class in six schools, the ordinary salary is 1,200fr. At the end of five years the pay from each school is 233fr. 33c. At the end of ten years it rises to 266fr. 66c. At the end of fifteen years, to 300fr., which makes 1,800fr. to a professor who has six schools. When a professor has charge of several classes of adults he receives 300fr. per annum, and after five years 400fr. Each school receives three lessons of singing in the week. Twice a month the directors of the right bank and of the left bank, separately, unite the most advanced pupils of the singing classes (children and adults) on Sundays. On Thursday evenings the directors assemble the most advanced male adults, selected by the professors, for a course of higher instruction. Every year the most advanced pupils (children and adults) sing choruses, without accompaniment, at an organised meeting. They number from 1,300 to 1,400 for each bank of the Seine. The city of Paris pays all the expenses of the "Musical Orpheon" of Paris. They amount to about 136,000fr. per annum.

Choral Societies and Free Orpheons.—The choral societies ("Orpheons libres") have extended throughout France a taste and a regard for music. They are not regularly organised, are upwards of 1,200 in number, and receive no subvention from the state.

Many of the societies receive from their respective municipalities a subvention for the appointment of a professor charged with the direction of the music, and rooms free of expense for practising. Other choral societies are maintained by local subscriptions and honorary non-musical members, who pay from 5 to 10 francs. Two concerts a year are given for the benefit of the honorary members. Other societies are maintained by subscriptions among the members only, which vary from 50 centimes to a franc per month.

The meetings for choral singing and the distribution of prizes attract great crowds, and for that reason are usually held in the open air. In 1862 there were 26 such meetings; in 1863, 34; and in 1864, 41.

1,040 choral societies form an effective strength of 27,500 orpheonists who have taken part this year in the choral meetings. They are frequently assisted by orchestras and bands of wind instruments.

The municipalities derive a large profit from the octroi duties paid by the large concourse of strangers attracted to the towns by the festivals. The city of Lyons received 58,002 francs 17 cents. on the occasion of the Orpheonic meeting in May, 1864. These sums are expended in the purchase of gold and silver medals, given as prizes. Gold medals for different objects are also given by the emperor, senators, deputies, and members of council of the departments.

These festivals are organised by associations of numerous choral societies. The Association of the Seine consists of 28 free Orpheon societies and 25 adherents. It has one annual concert and two meetings; it publishes a journal, and is maintained by its own resources, receiving only a small donation of 500 francs from the Minister of Fine Arts, by way of sanction.

The choral societies of Alsace include those of the

Upper and Lower Rhine. They have large meetings, and receive no subscription.

The Association of Musical Societies of Calvados has been founded only one year. It gave a concert in 1864, and is preparing another for July, 1865.

During eighteen years the choral societies of France have subscribed upwards of a million of francs to charitable institutions by giving concerts for the benefit of the poor. During the cotton crisis the choral festivals for the benefit of unemployed workmen realised 100,000 francs.

INSTRUCTION IN ART.

The following article has appeared in the *Times* :—

Perhaps the most durable and tangible result which the Great Exhibitions of 1851 and 1862 have bequeathed to us is a thorough conviction of the necessity of giving to our manufactures the extra value imparted by elegance of form and beauty of colour. Political purists may affect to doubt whether the cultivation of the taste of the nation and of its manufactures be a legitimate province for the activity of Government; but the point seems practically settled by the large sums of money which are annually voted by Parliament and by the Reports of successive Committees appointed with no friendly spirit, but uniformly ending in approving what they were appointed to condemn. We are committed, for good or for evil, to the development of our taste as a part of the duty of our Government. We have done too much to go back, and the only practical question which remains is in what direction and by what means shall we go forward.

We do not find in the debate of Thursday on the Art and Science Estimate any very practical suggestion on this point. We have established a Museum of such objects as are supposed to contribute to the improvement of Art and Manufacture, which is certainly, whatever may be its utility, one of the prettiest, best managed, and most attractive Exhibitions in London. We have founded a Central School, connected with this Museum, for the instruction of masters and of such pupils in drawing as are willing to pay the value put upon the instruction they receive, a species of oppidans or commoners, the future masters being educated at the public expense. We give besides aid, in the shape of pecuniary grants, to some ninety schools in the principal towns of the three kingdoms. Such is our present system, and we seek in vain in the rather warm debates which have been held in Parliament for any suggestion for its improvement. The great battle-field is the South Kensington Museum itself. A violent feud seems to exist on the subject. Mr. Layard maintains, apparently with good reason, that the Museum is a great boon to the metropolis; while Mr. Cox considers it too far removed from Finsbury, very convenient perhaps for the upper ten thousand, but useless to the great mass of the inhabitants it represents. Mr. Bentinck sees in this Museum one of the strongest proofs of the systematic plunder of the country for the benefit of the town, and he takes alarm at the fact that some portions of the iron building, being no longer required, are to be presented to some suburban district to form the nucleus of a new museum. This is a fair specimen of the comprehensive manner in which the support of an institution intended to exercise, and, indeed, having already exercised the most beneficial influence on our manufactures, is discussed. We cannot wonder, if there was nothing better to be said against it, that the attack on the South Kensington Museum proved utterly harmless. Mr. Potter next assailed the Training School—undoubtedly the most useful part of the expenditure for the purpose of diffusing sound art-knowledge. He considers the fees paid by unassisted students too low, and so he moved the reduction of the grant to the Schools of Art throughout the country by £1,000. This also did not appear a very satisfactory measure of reform, and so there is no reason

to be surprised that the Committee did not accede to the proposition.

The weak point of the system lies, we are well convinced, neither in the Museum, which is an ornament to the metropolis, and an institution signally useful to the trade of the country, nor yet in the Training School, which has created and kept alive the highest standard of art-teaching throughout the country, and rescued many schools from ignorant and incompetent hands. The weak point of the system is in the little support that is given to Schools of Art by localities in which they are most valuable and which profit most by their services. The subscriptions raised by the richer inhabitants of the ninety places in which schools receiving aid from Government are established are absolutely contemptible. The whole amount does not, according to Mr. Potter, exceed £1,000 a year. In many places there is no subscriptions at all, and yet it is amusing to see with what pertinacity the managers of these schools, who do little or nothing for themselves, demand grants from Government, how deeply injured they feel if those grants are not as large as they expect, and how earnestly they press upon others the claims of Art to which they are almost entirely deaf. The truth is, that in Schools of Art that voluntary element which gives so much support to the schools for the education of the poor is almost entirely wanting. The Government does not in this case aid a voluntary movement, but endeavours to originate one in favour of which little or no voluntary support can be enlisted. There is very little help to be counted on from any other source than the fees paid by the working men themselves; and the existence of the system must depend upon whether these fees, together with the aid derived from Government, are sufficient to defray the requisite expenses. The Art Schools are evidently deprived of one great advantage possessed by the schools of primary education. Both classes of schools have, indeed, bodies of managers, but the managers of the schools for the education of the poor have a strong pecuniary interest in their success, and contribute as well as direct, while the managers of Art Schools are little more than recipients of public money, which they are not prepared to supplement by resources of their own. The result is that the master in the elementary poor school is the servant and under the control of the managers, while in the Art Schools the managers are little and the master almost everything.

We await with some curiosity the result of the new Minute, which seems to be the last effort that can be made on behalf of local art-education in this country. If the aid thus given be found not enough to stimulate local subscriptions, there is no remedy that we can see but to give up altogether the attempt to support local art-education at the expense of Government, and to confine ourselves for the future to increasing the Museum and maintaining the Training School, so that Art may not die out amongst us for want of skilful teachers. The rest must be left, it should seem, to the energy of the nation. If it turns out that there is not in our manufacturers sufficient public spirit to avail themselves of the assistance which the Government provides for them, it seems hardly reasonable to expect that the community at large should continue an expenditure in which those for whose profit it is designed obviously take so little interest. Nothing flourishes long in England that rests merely on Government influence. The great manufacturing community of the country have the question fully before them, and they must decide whether they will second the efforts of Government, or leave them to fall fruitless to the ground.

GRAPE CULTURE IN AMERICA.

As the London market has for some time been supplied with fresh grapes, the produce of North America, it may be interesting to members of the Society of Arts to know that more than one hundred years ago the Society was much

occupied with the question of the introduction and culture of the vine in that country. The following is an account of its endeavours at that time to promote this object:—

"Several attempts had been made, but without success, to introduce the vines of the eastern continent into our American colonies, in order to the making of wine; and the Governor of Georgia, in particular, had been fruitlessly at considerable pains and expense on this account there. The Society, however, deeming it not impracticable, and urged by the importance of the question, entered with great spirit into the design of encouraging it, and had pursued their intentions by the offer of various premiums. The first, in the year 1758, proposed the following premium for the wine itself:—'As producing wines in our American colonies will be of great advantage to those colonies, and also to this kingdom, it is proposed to give to that planter, in any of our said colonies, who shall first produce, within seven years from the date hereof, from his own plantation, five tons of white or red wine, made of grapes the produce of the colonies only, and such as, in the opinion of competent judges, appointed by the Society in London, shall be deemed deserving the reward, not less than one ton thereof to be imported at London, one hundred pounds.' This premium was continued to be advertised up to 1765, the period appointed for the bringing in the claims, and then dropped. After the year 1769, a *nota bene* was added to the advertisement, which expressed 'that the method of cultivating vines for wines, and the manner of making wines in different countries, were to be found in Miller's Dictionary, edit. 1758.' During the time this premium was offered, others for the raising vines for wines were also proposed to be given. In 1762 the following advertisement was published:—'A premium of two hundred pounds will be given for the greatest number—not less than five hundred—of the plants of the vines which produce those sorts of wines now consumed in Great Britain, which shall have been properly planted and effectually fenced, secured, and cultivated within any of the British colonies upon the continent of North America to the northward of the river Delaware, considered as one district, between the 1st of 1762 and the 1st of April, 1767; and fifty pounds for the next greatest quantity, not less than one hundred plants.'

"The like premiums were separately offered 'for any of the British colonies on the continent of North America to the southward of the river Delaware.' And the same was also proposed 'to the Bermuda Islands.' To these advertisements was subjoined a *nota bene*, declaring that 'the person who should be entitled to the premium for making five tons of wine, as published in the list of premiums, in 1761, should not be entitled to these premiums.' In 1763 the Society thought proper to continue the premium for the planting vines in the colonies to the southward of the river Delaware, and the Bermuda Islands, to the year 1768. In 1765 they also proposed to give additional premiums of two hundred pounds, and fifty pounds, under the like limitations, for the planting the same quantity of vines, actually producing the grapes, which yield those sorts of wines now consumed in Great Britain, between the 1st of April, 1768, and 1st March, 1770. These premiums have not been extended since the time mentioned, because the introduction of vines into America was known to have taken place. The first account of the success of these premiums was in 1763, when Mr. Carter sent a dozen bottles of two kinds of wine from grapes which grew in vineyards of his own planting in Virginia. The one of these kinds was the product of vines brought from Europe, the other of the American wild vines. They were both approved as good wines; and the Society gave their gold medal to Mr. Carter as the first who had made a spirited attempt towards the accomplishment of their views respecting wine in America. In 1767 there were claims made for the premiums on the planting vines, both from the districts to the southward and northward of the river Delaware. But the form of certi-

fication of that to the southward not being conformable to the advertisement, the claim was not allowed. There were two claims for that of the northward; but the claimant who had planted the greatest number of vines having also failed in some essential points of certification, the premium was adjudged to the other. However, in consideration of having planted so great a number of vines as two thousand one hundred, the Society thought fit to give him a gold medal.

"When the cultivation of the vine was first attempted, the vintage was found in many parts to be subject to very frequent miscarriages from the bursting of the grapes, caused by the rains, before they were ripe. But the Society's measures had occasioned trials of the native vines of America, which were before only considered as wild, useless plants, that promised much better success. In 1768 the Society offered medals for the cultivation of the indigenous native vines.

"The following additional awards, for the planting and culture of the vine, were made:—In 1768, £200 was awarded to Edward Antill, Esq., of Brunswick, North America, for vines planted for making wine; in 1769, the Society's gold medal was awarded to the Earl of Sterling, New Jersey, North America, for planting 2,100 sets for wine; in 1771, £50 to Mr. Christopher Sherb, of Carolina, for planting and cultivating a number of vines in South Carolina, and producing wines made of them; in 1772, the Society's gold medal to Mr. Du Menil de St. Pierre, of Charlestown, for planting and cultivating the vines and indigo, and producing silk by foreign Protestant labourers in the interior part of South Carolina.

"The production of raisins in our American colonies was another of the early objects of the Society. In the year 1759 the following premium was instituted:—'To the person, in any of our American colonies, who shall first raise and cure, from his own plantation, and import into the port of London within six years from the 25th of March, 1759, five hundred pounds weight of good raisins, fifty pounds.' There never was any claim made for this premium; nor, as appears, any effort to obtain it. This mode of premium appearing thus not effectual for the purpose, the Society, in the year 1762, changed it to the cultivation of the vines which produced raisins; and advertised as follows:—'A premium of three hundred pounds will be given to the person who shall, on the 1st of September, 1767, have, or be possessed of a vineyard, or plantation, in any of the colonies upon the continent of North America, southward of the river Delaware, consisting of the greatest number of vines—not less than fifty—actually producing the true Malaga grape, from which the best raisins are made. And one hundred pounds for a like plantation, or vineyard, consisting of not less than twenty-five plants, producing the said grapes.' The next year the Society advertised that they proposed to continue these premiums to the year 1770. These premiums do not appear to have had more effect than those for the raisins themselves."

ROYAL SCOTTISH SOCIETY OF ARTS.

At the meeting, on Monday evening, the 10th of April, Charles Cowan, Esq., President, in the chair, a paper, communicated by Mr. ROBERT AYTOUN, F.R.S.S.A., "On an Improved Plan of Drawing Coals, whereby great Speed is attained with a small Expenditure of Power," was read.

The author stated that the weight of the rope used in drawing coals absorbs a great part of the power employed. In deep pits, for every ton of coals drawn, there may be from two to three tons of rope drawn also. The author's improvement consists in hanging another rope, of the same weight and length as the one previously employed, by its two ends, to the under sides of the two cages, and passing it under a pulley at the bottom of the pit, to keep it in its place. By this expedient the rope is perfectly balanced

in every position, one half ascending while the other half is descending, and the engine is absolutely relieved from the burden of the rope, at the mere expense of the friction caused by the weight of the additional rope, which is trifling. Pits, whose depth requires stronger and heavier ropes than could be worked on the present unbalanced system, may be worked (in the author's opinion) on the proposed system successfully, and with engines of moderate power; for the entire weight of the ascending rope and cage is balanced by that of the descending ones, and the engine has nothing to do but raise the coals and overcome the friction caused by the weight of the ropes, cages, and coals. The author showed the simplification which this system permits of being introduced into the winding apparatus. Instead of the lofty pit-head frame, and its two pulleys, he places a single large pulley over the mouth of the pit, corresponding to one at the bottom. The drawing rope is to be passed over this pulley, and the cages are to be hung to its two ends. This rope, connected to the lower rope by means of the two cages, may be considered as an endless band stretched between the two pulleys, and completely balanced in every possible position. The steam-engine, by means of a connecting rod working a crank on the shaft of the upper pulley, sets it in motion either way; and the pulley, by means of the friction betwixt its surface and the rope, communicates that motion to the rope and the cages with their loads.

The paper describes its application to a pit 300 fathoms deep, in which two tons of coal are drawn at a time. It is there pointed out that the winding friction is the only unproductive work, and amounts to no more than three per cent.; while 97 per cent. of the power derived from the steam-engine is productively employed. The paper next shows how it may be applied to drain, by means of tubs, the "drowned out" mines of Tyneside, yielding 5,000 gallons per minute. The unproductive power in this case, it is stated, would only amount to two per cent.

Besides these advantages, there are said to be others which result from the engine being connected with the drawing rope by the friction of the pulley, instead of by solid shafts or toothed wheels. If the engine is forced into violent action, which would endanger the rope on the old plan, it will merely cause the pulley to slip under the rope. If the cage should meet with an obstacle in the shaft, the rope again slips on the pulley and no damage is done. But the chief advantage occurs when the engine does not stop when the cage has reached the top of the pit. The result would be, under the present system, the dangerous accident of over-winding; but, in the proposed system, as soon as the lower cage rests upon the bottom, and the rope and upper pulley are relieved of its weight, the friction is reduced *pro tanto*, and the pulley slips under the rope, without having power to raise the cage above the landing, and no damage whatever is done to the winding gear, or to the individuals who may be in the cage.

As the slipping of the rope on the pulley prevents breakage in the shaft, a much higher speed than is considered safe at present can (says the author) be maintained. As there can be no over-winding, this higher speed may be maintained till the cage has almost reached the surface. This is a saving of time. Again the engine stops, with the steam nearly full on, balancing the loaded cage; thus there is no occasion for struts for the cage to rest upon, and the time wasted on them is also saved.

This system is supposed to be peculiarly adapted to the use of safety cages. There is a screw which moves the lower pulley, and tightens the rope, thereby compressing the springs of safety cages and keeping the clutches, or claws, clear of the guide rods. This removes the only objection which is now urged against the use of safety cages, as it permits them to have powerful springs to overhaul the broken rope, without there being any danger of their catching the guide rods while the rope is entire.

Fine Arts.

LOST PICTURE FOUND.—M. Triccia, of Florence, a painter and restorer of pictures, has made a fortunate discovery. He was engaged by an amateur to examine a collection of miscellaneous matter, when he discovered a large canvas, eight feet long and more than six feet high, which struck him immediately as a work of importance, and he succeeded, after some trouble, in deciphering the name of the painter, "Luca Signorelli." Such a work is specially mentioned by Vasari, who says that Signorelli visited Florence to study the great masters of that school, and painted for Lorenzo de Medici a picture called "The Naked Gods," which had a very high reputation. Vasari adds, "we have no information whatever about the fate of this picture." M. Triccia declares that there is no doubt that the work which he found neglected in a loft is that to which the critic refers.

NEW GALLERY OPENED IN THE LOUVRE.—The directors of the Louvre have just opened another series of rooms containing pictures of the French school; amongst which will be found works by Fouquet, De Courmon, Ambroise Dubois, Jean Cousin, and others of the Burgundian school; an excellent collection by Clouet, and other artists of the fourteenth, fifteenth, and sixteenth centuries; and a large number by Lesueur, Lahire, Simon Vouet, Bon Boullogne, Restout, Jean Mosnier, Charles Lafosse, Joseph Vernet, Hubert-Robert, Casanova, and others. The new gallery has been called after Eustache Lesueur.

THE BONAPARTE MONUMENT IN CORSICA.—On the 15th ult., Prince Napoleon presided over the inauguration of the grand monument raised at Ajaccio to the memory of Napoleon Bonaparte and his family. The Emperor is on horseback surrounded by his four brothers, and all, by a strange caprice, very unusual in France, are dressed in Roman costume. The equestrian statue is nearly ten feet high, and the others about seven feet each; the base is raised more than twelve feet above the level of the soil. The statues are cast with bronze furnished from cannon taken in the late Italian campaign, but two winged Victories, placed in the basement, are of marble. The entire monument is about a hundred feet in length and twenty-five feet in height. The general arrangements were entrusted to M. Viollet le Duc, and the sculpture by MM. Barye, sen., Thomas, Jean Petit, Maillet, and Dubray. The day of the inauguration was a grand fête. The population of Ajaccio is only 14,000, but 40,000 people were collected on the occasion. Prince Napoleon delivered an eloquent address, which occupied an hour and a half.

EXHIBITION OF RETROSPECTIVE ART.—The Paris Union Centrale des Beaux-Arts as applied to industry, whose establishment in the Place Royale has been noticed in the *Journal*, has decided that the Exhibition of Industrial Art which is to open under its auspices in the Palais de l'Industrie on the 10th of August, shall include retrospective art as well as that of the present day; and has just issued an invitation to collectors for contributions. The Council expresses its conviction that such a collection will be of great service, at the time when all the world is preparing for the Universal Exhibition of 1867. The retrospective exhibition is to include objects of all past epochs without exception, antique, mediæval, and renaissance.

ART PATRONAGE IN MEXICO.—The Emperor Maximilian has always been a patron of art; when Archduke, the Saxon sculptor Knauer executed busts of Goethe, Schiller, Shakespeare, Dante, and Homer, for the chateau of Miramar. The Emperor has just commanded of the same artist busts in Carrara marble of Alexander the Great, Julius Cæsar, Augustus, Antoninus Pius, Marcus Aurelius, Charlemagne, Charles Quint, Napoleon I., Napoleon III., and Humboldt, for the Imperial Palace of Mexico.

A BORN ARTIST.—M. Charles Ooms has just received the first prize of excellence in painting at the Royal Academy at Antwerp. Seven years ago he was engaged in minding his mother's cows, in a village in the Campine, but instead of leaving the animals to the best pasturage, he occupied himself in making innumerable sketches of them. His mother complained of the boy's idleness to her daughter, who was in service in Antwerp, and the latter, in her turn, spoke to her master on the subject. This caused an inquiry to be made into the matter, and the sketches were thought sufficiently promising to warrant the education of the lad, who was utterly without any kind of instruction. M. Teichman, the Governor of Antwerp, and his secretary, M. Thielens, recommended the boy to M. de Neyser, the director of the academy in that town, who received and protected him, with the result already mentioned.

Manufactures.

NEW IRON BRIDGE.—There has been just completed, in the yard of the Regent's Canal Ironworks Company, a remarkable iron bridge, which is the largest yet constructed on a system invented by Mr. A. Sedley. The structure in question has been made to the order of the Indian Government, and is designed to be erected in India. The leading feature of the new principle is that, without the necessity of any subaqueous works, or the erection of any intermediate towers or piers, the bridge can be built to cross in a single span any river or chasm up to an extreme width of 500 yards, or 1,500 feet. The bridge just finished is of 75 feet span and 14 feet wide; its total weight is 22 tons, including the roadway, and it will support a nominal strain of four tons per sectional inch, but really a greater weight. Two great cantilevers, or wedge-shaped girders, are built up piece by piece till they are projected from opposite sides of the chasm or river which is to be bridged over, and extended till they approach within a distance something less than a third of the whole span. Across this space a central girder is thrown, which, while it completes the continuity of the bridge, acts, when fixed in position and riveted down, as the key-stone, so to speak. The wedge-shaped girders which project from either side of the stream are at their wide ends embedded and built into massive piers of masonry on the shores. The base of the wedge is fixed by iron tugs, in an upright position; the central arm of the girder supports the actual roadway of the bridge; the lower arm, stretching to the point of the girder, becomes a bracket support; and the upper arm passing over the summit of the upright end, which makes the thick end of the wedge, is extended backwards as a tension bar, and anchored firmly in the earth, thus giving suspensory support to the central arm, which attains a perfect rigidity. Upon the piers the whole strain is thrown. The roadway is constructed of the iron-buckled plates, invented by Mr. Mallet, which have done such good service on Westminster-bridge. For the hill-roads in India the bridges constructed on Mr. Sedley's new system seem well adapted.

Commerce.

THE WHITEHALL AND WATERLOO PNEUMATIC RAILWAY.—It appears that arrangements have now been made which will admit of the commencement of the works of this proposed railway immediately on the necessary Parliamentary powers being obtained. The Bill has passed the Commons, it is now unopposed in the Lords, and in a few days it may be expected to receive the Royal assent. The proposed line will commence at an open station to be formed in Great Scotland-yard, and be con-

tinued in brickwork under the Thames Embankment to the river; across which it will be carried in a watertight iron tube, encased in cement concrete, laid and fixed in a channel dredged out of the bed of the river. From the river the line will be continued in brickwork under College-street and Vine-street, to a station convenient for the traffic of the York-road and the Waterloo terminus of the South Western Railway. The steepest gradient will be 1 in 30. The trains will be worked to and fro by pressure and exhaustion alternately, and at intervals of from three to four minutes from each end; a frequency of despatch hitherto unattempted. The carriages will be as commodious, as well lighted, and as completely fitted for the comfort of the passenger, as those of the Metropolitan Railway. The iron tube will be made by Messrs. Samuda, and the laying of the tube and the other works will be undertaken by Messrs. Brassey and Co. The principle upon which the line will be worked will be the same as that adopted on the experimental railway in the grounds of the Crystal Palace. The machinery will be on the Surrey side, at the York-road station. The whole of the works are to be completed in twelve months from the date of the commencement. The cost of the undertaking will be about £130,000. The pneumatic system, by which air is applied to railway propulsion and the incumbrance of the locomotive is got rid of, differs materially from the former atmospheric system. Under the new system, the train is wholly within a tube or covered way (through which it is rapidly propelled by the pressure of the air behind it), so that not only are all the difficulties attending the continuous valve and the consequent leakage avoided, but the advantage of working with greatly reduced pressures, and with proportionate economy, is obtained. Thus, while the old system necessitated a pressure of from 120 ounces to 160 ounces per square inch to move the train—under the new, a pressure of 3 ounces or 4 ounces per square inch is found sufficient. Indeed, in its present form the pneumatic system is simply an adaptation of the process of sailing to railways; the wind being produced by steam-power, and confined within the limits of a tube.

TUNNY FISH.—This fish, which, when pickled, is much esteemed in France as a *hors d'œuvre* or relish, is generally rather scarce, but recently an enormous quantity were taken in the waters of a little fishing village called Sausset, between Port de Bouc and Marseilles, and accounts from the last named place say that the number brought to market there has been about fifteen hundred a day, and that the quantity remaining still in the *madrague*, or great net used for catching this fish at Sausset, is so great that it is feared a large portion will be lost for want of means of preserving the fish quickly enough. The single haul at which all these fish were taken is believed to have yielded about 40,000 francs (£1,600) to the society of fishermen at Sausset, and that after a certain amount is withdrawn, according to established custom, for the reserved funds of the society, each fisherman will have about £24 for his share of the proceeds.

Colonies.

TELEGRAPHS IN NEW SOUTH WALES.—The telegraph line between Braidwood and Araluen has been completed, and opened for messages. The only extension at present in progress is that from Queanbeyan to Cooma, of which a length of about fourteen miles is finished. A contract has been taken for the formation of a telegraph line from Deniliquin to the borders of South Australia, to afford direct communication between Sydney and Adelaide, but the work has not yet been commenced. No new lines are proposed in the estimates for the present year. Applications have been made to the Government for the extension of the telegraph to various districts; but as all the more important towns in the colony are now con-

ected by the wire with Sydney, it is made a condition of further extensions that residents in the districts desiring the telegraph should guarantee to the Government a return of five per cent. upon the outlay for five years.

NEW SOUTH WALES COAL.—The quantity of coal entered at the Sydney Customs, from 17th February to 20th March, 1865, inclusive, was 13,218 tons, while the shipment from the various mines on the Hunter, Newcastle, for the same period, amounted to 16,875 tons.

THE REVENUE OF TASMANIA appears to be not very flourishing. The total received from all sources for the past year was £181,074, as against £183,455 in 1863. In the Custom-house the decline was £2,809.

SIROCCO AND BUSH FIRES IN VICTORIA.—On 27th February a fierce sirocco wind set in from the north-west, exceeding in its velocity and overpowering heat any that has been experienced for the last fourteen years. It was felt in a nearly equal degree all over the country. Extensive bush fires speedily commenced, and in Melbourne the heavy smoke filled the city like a thick fog; breathing became difficult, and except in houses whose inhabitants had closed every window and door betimes, a sense of prostration prevailed. At Ballarat the heat reached 99 degrees, and bush fires raged from Spring Hill and Learmouth to the border of Bullarook Forest. From Geelong to Ballarat was nearly a line of fire, and much damage was done to houses, crops, and fences. In the country round Daylesford similar disasters occurred. The large agricultural district of Kyneton was severely visited, and a long list is recorded of homesteads, growing crops, stacks, well filled barns, and fencing destroyed by the calamitous fire. Steps have been taken for the relief of the sufferers. Parliament has been asked for £50,000 to help the more completely destitute, and the colony is being canvassed for subscriptions in aid of the Kyneton farmers, of whom many are completely ruined.

WINE-MAKING IN SOUTH AUSTRALIA.—The past season has been very dry for the grapes, and will affect the weight of the yield; but, with careful management, a very superior wine may be produced. The wine-growing interest is now assuming a really important character from the number of persons engaged in this industry, and from the large and increasing capital at stake. Considerable excitement prevails amongst vigneron in consequence of the late colonial government having intimated their willingness to allow free distillation from the produce of the vine at least. Should the present restrictions upon converting wine into spirits be removed, a great impulse would be given to the vineyards of this colony.

Publications Issued.

A RECORD OF THE PROGRESS OF MODERN ENGINEERING, 1864, comprising civil, mechanical, marine, hydraulic, railway, bridge, and other engineering works, with essays and reviews. By W. Humber, Assoc. Inst. C.E., and M. Inst. M.E. (*Lockwood and Co.*) This volume contains detailed drawings to a large scale of many important works, among which will be found the following:—The entrance to the Mersey Docks, Birkenhead, including the low-water basin, details of the sluices and flushing apparatus, the hydraulic machinery for working the shuttles, also the hydraulic machinery for opening and closing the lock gates; the bridge over the fifty feet lock, with the hydraulic machinery for moving the same; the pumping engines, engine house, and accumulators; also the landing-stage in the low-water basin, &c. The Charing-cross Railway Station, with full detailed drawings of the roof; viaducts and bridges on the Great Northern Railway; College-wood Viaduct on the Cornwall Railway; the principal details of the Winter Palace at Dublin; the railway-bridge over the Thames at Blackfriars; full details of the Greenock-docks; viaducts on the Merthyr-

Tredegar, and Abergavenny Railway; and other engineering works. The letter-press comprises articles on the formation of harbours and breakwaters, with a description of the works at Greenock; a full description of the arrangement of the Birkenhead Docks and hydraulic machinery; articles on iron permanent way, &c., &c.

Notes.

EXHIBITION OF INSECTS.—A novel kind of exhibition is announced to take place in the Palais de l'Industrie of Paris, in August and September. The Central Society of Agriculture has conceived the idea of showing to the public a collection of insects useful for their productions—such as silk-worms of all kinds, bees; insects producing colouring matter; edible insects; and insects made use of in medicine; and, secondly, of such as are mischievous to various crops—as cereals, the vine, citrons, and other plants made use of in industry, green crops, and other edible plants, fruit trees, forest trees, timber and wood; and, lastly, of parasitic insects of all kinds. The edible insects will include the eggs of the Hemiptera of Mexico, with the bread made from the same; the larvæ of India and China; locusts; and Polynesian spiders. The Acclimatisation Society and the model farms maintained by the Imperial Government will furnish a considerable number of living specimens in some of the divisions; but there is little doubt that in others the public must be content with the "still-life." The Minister of Agriculture and of Public Works has accepted the presidency of the Committee of Organisation, which includes several persons of scientific eminence. The Exhibition is announced to open on the fifteenth of August.

LITERARY AND ARTISTIC CONVENTION BETWEEN FRANCE AND BAVARIA.—International property in works of art and intellect is rapidly extending, and cannot fail to exercise considerable influence, not only on artists but on the general condition of education and taste. By the convention concluded in March last, but just now promulgated, the artists and authors of each country will enjoy in the other the same privileges and protection as if they had been first published in that country, and all works of the kind referred to will be allowed to pass duty-free between the two states on the production of certificates of their origin. The convention comes into operation on the first day of July in the present year, and is applicable to any of the states of the Zollverein that may desire to subscribe it.

THE ERUPTION OF ETNA.—The eruption of great volcanos is an object of such terrible magnificence, that few observers are sufficiently masters of their judgment to form any very correct notions of the various circumstances of the phenomena. In the present instance, however, M. Fouqué, a French *savant*, has studied this convulsion of nature for fifteen days under great difficulties and privations, and has communicated the results of his observations to his friend, M. Sainte Claire-Deville, who has published them to the world. The eruption commenced on the last night in January, two shocks of earthquake having occurred during the previous day. At the moment of the breaking out of the convulsion there was another and very violent shock, which was, however, only felt on the north-east side of the mountain. At Lavina, near Piedimonte, the inhabitants were so terrified that they fled from their houses and spent the night in terror in the open air, while at Catania, on the other side of Etna, the earthquake was scarcely felt. The eruption commenced on the north-east side, at about 1,800 yards above the level of the sea, and 500 yards from an old crater, Monte Frumento, which is itself at the base of the principal volcano. As soon as the earth was opened, the lava began to pour forth, and in four days the stream was nearly four miles long, full half that in breadth, and in

many places not less than from thirty to sixty feet in depth. The river of fire flowed down a part of the mountain, having an average inclination of four or five degrees, destroying everything in its course, till it encountered another old cone known as Monte Stornello. Here the lava was divided into two streams, one descending gently on the west of Stornello, while the other precipitated itself into a deep and narrow valley, situated between Monte Stornello and the chain of hills called Serra de la Boffa. Here a cascade of fire, bearing on its surface masses of solidified blocks, fell over a precipice more than 150 feet deep with fearful noise; the valley was soon completely filled, and the stream of lava continued its course for nearly two miles more, and stopped on the place of an old lava flood called the Sciarra de la Scoria Vacca, at an altitude of about 2,600 feet above the sea. The western stream continued its course, and became itself divided into two; one of these continued progressing till the 21st, and the other till the 25th of February, when the head of each was arrested, but small lateral streams continued to be produced at intervals. On the 6th of March another stream burst forth from the west of the craters, and was still increasing and advancing rapidly when M. Fouqué wrote. This will give some idea of the enormous power and extent of these hidden fires, which in a few days can fill up valleys and change the face of a country for miles. But M. Fouqué's account of the craters themselves extends the idea of the terrible grandeur of such convulsions. The craters, he says, are seven in number; five of them lie in a large elliptical space, each crater being not at the top but at the side of a cone or hill, from 150 to 200 feet high. The other two craters are on the outer side of one of these cones. The ellipse containing the five craters is described as forming as it were one great crater, the ground being burst open and split in all directions. This great oval crater, which is closed in on all sides but one, whence escapes the river of lava already mentioned, is about 1,300 feet long, and 100 feet wide at its narrowest part. From the base of the Monte Frumento to that of the nearest crater exists a tremendous fissure, about 1,800 feet in length, generally thirty feet wide, and in some places of immense depth. This huge crack is partly filled with blocks of chilled lava, the effect of the snow, which had accumulated to a considerable depth. Where the lava stream was most dense the heat was so great that the largest pines were entirely carbonized, even at a distance of sixty feet from the fiery river. This account enables us to form some slight idea of the convulsions which subterraneous fire has created at various times on the surface of our globe.

GIGANTIC ASPARAGUS.—Enormous heads of asparagus have recently appeared in the Paris market, and many guesses have been made respecting the mode of their production. It is said that a large grower was recommended to cultivate the plants not together, as in the ordinary manner, but dispersed amongst other vegetables in his garden, and that the success was beyond all his expectations. The cause of this is not evident, but it may be suggested that probably the experiments were tried in a very warm soil in the south of France, which supplies Paris with an enormous quantity of fruit, peas, and asparagus. Having succeeded in obtaining a gigantic growth, the grower tried a further experiment. He placed over each shoot, as soon as it appeared above ground, a glass bottle, or rather short tube with a bottom to it, pressing the latter down as far as possible into the ground. The consequence of this treatment is the production of enormous heads, each sufficient to make a dish of itself, and in some instances weighing nearly a pound. This colossal asparagus is said to be equal in flavour and as tender as the finest known kinds produced in the ordinary manner.

LOCOMOTIVES ON COMMON ROADS.—Some time since, an experiment was tried at Nantes, which was recorded in the *Journal*, with the view to the establishment of steam omnibuses on the ordinary road. The first essays were made with an experimental machine, but recently the

first trial of a new one was made in the presence of the Maire and some of the principal people of the place, who filled the omnibus attached to the locomotive. The engine, of eight-horse power, weighs seven tons with its coal and water; it is more than eighteen feet long and nearly six feet wide outside the wheels. The journey was performed without interruption, with the exception that in one place too short a turn was taken and the locomotive had to be unhooked from the omnibus before the error could be rectified. The 29 kilomètres between Nantes and Nort were performed in two hours, the locomotive stopping twice to take in water. The steam omnibus was to ply regularly after that day between the two towns.

HOME FOR APPRENTICES.—Mr. Hartley, of the Westminster Marble Works in Earl-street, London, has founded a home for boys, who are taken as apprentices, and placed in a small house, in which a person resides connected with the works, who acts as a master; his wife is the superintending matron; and the control of these lads is placed in their hands. They are called in the morning to go to their work; they return at stated times to their meals, which are always ready for them. There is thus no time lost. After the work is over there are books and newspapers for them to read, or occupation is found in writing and drawing. They are allowed full liberty of ingress and egress, being fined, however, if not in by a stated time, which varies according to the season, and they are allowed a small sum a week for pocket-money; they are thus placed in a position which must have a very material effect in qualifying them to fulfil their duties properly when arrived at manhood. The boys are taken at about thirteen or fourteen years old, and retained until twenty-one, at which age they ought to be able to take care of themselves, and make room for others; and during this period they have all the advantages of a home, and at the same time a surveillance is exercised over them which others in the same station of life have not at their own paternal homes. This institution is said to have been found exceedingly advantageous, not only as an industrial school, but to the master who has founded it, for on a comparison made by Mr. Hartley of the loss sustained by him during a year, taking twelve boys of the Home and twelve apprentices living at their own homes, he found that the loss by absence amounted in the whole to but 11s. 3d. from the college boys; whereas, from the apprentices living with their parents, the loss on the same account exceeded £40 during the same period. Mr. Hartley's proposal is to establish similar institutions throughout the country. There appears to be little or no expense attending them, such as is usually the case with Reformatory Institutions. A small house, at a low rental, capable of containing about fifteen lads, is amply large enough. In fact they might be self-supporting; for employers would be willing generally to pay for the board of their apprentices, rather than receive them into their own houses—this being the great objection to taking them at all.

Correspondence.

ON THE WEAR AND TEAR OF STEAM-BOILERS.—SIR,—As Mr. Paget has omitted (in his last letter) to identify the supposed equivalent passages of his double-barrelled letter, I fancy (but I may be wrong) that my priority is established, as I expected it would be, in the publication of the leading causes of the furrowing and pitting of steam-boilers, which form the basis of his paper. About the stay-bolts, mentioned incidentally by myself, it seems as if he has just succeeded in tracing a prior publication by Mr. Colburn, which certainly presses rather closely upon me. But, if he knew of this before, why did he not acknowledge it in his paper? And if he did not know of it, why did he not acknowledge my publication? It is very likely Mr. Colburn sent me the paper referred to,

just as Mr. Paget sent me a copy of his paper on boilers; but I don't read all that I get in this way. You know the old proverb:—"Though you may take a horse to the water, you cannot make him drink." But, on Mr. Paget's own principles, he must have read what I have written and quoted in your columns for his edification, though he did omit to acknowledge it.—I am, &c., D. K. CLARK.

MEETINGS FOR THE ENSUING WEEK.

- MOX.** ...R. Geographical, 8½. 1. Colonel L. Pelly, "Journey to the Wahabee Capital, interior of Arabia." 2. Capt. Allen Young, "On the Korea."
BRITISH ARCHITECTS, 8.
TUES. ...Medical and Chirurgical, 8½.
 Zoological, 8½.
 Syro-Egyptian, 7½.
 Photographic, 8.
 Ethnological. 1. "Dr. S. Nilsson, "An Attempt to explain Stonehenge." 2. Dr. Shortt, "An Account of a Religious Festival, comprising Leaf-wearing and the Hanging or Cheddul."
WED. ...Society of Arts. Annual Conference, 12. Conversazione, 8½.
 Microscopical, 8.
 Literary Fund, 3.
 Archaeological, 8½.
THURS. ...Royal, 8½.
 Antiquaries, 8.
 Linnean, 8. 1. Mr. Bates, "On New *Phasmida*." 2. Dr. Dickie, "On Arctic *Alga*." 3. Prof. Oliver, "On Two New Genera of African *Anonaceae*."
 Chemical, 8. Messrs. Frankland and Duppa, "On the Lactic and Acrylic Series of Acids."
 Numismatic, 7. Annual Meeting.
 Philosophical Club, 6.
FRI. ...Philological, 8.

PARLIAMENTARY REPORTS.

SESSIONAL PRINTED PAPERS.

Delivered on 23rd May, 1865.

- Par. Numb.**
 154. Bills—Inclosure (No. 2).
 161. " Coroners (Ireland).
 267. Gunpowder—Reports by Lieutenant-Colonel Boxer, R.A.
 290. Metropolis Turnpike Roads—Thirty-ninth Report of the Commissioners
 295. Leeds Bankruptcy Court—Official Letters, &c. Turkey and Persia—Correspondence.
Delivered on 25th May, 1865.
 157. Bills—Procurators (Scotland) (as amended in Committee).
 158. " Trusts administration (Scotland) (as amended in Committee).
 160. " Malt Duty.
 162. " Metropolitan Houseless Poor—Lords Amendment.
 163. " Drainage and Improvement of Lands (Ireland) (Provisional Orders Confirmation) (No. 2).
 259. Greenwich Observatory—Correspondence.
 275. Copper, &c.—Return.
 276. Mail Contracts (India, Ceylon, &c)—Returns.
 279. Armstrong Guns—Report of Admiral Kuper.
 286. Taxes (Great Britain and Ireland)—Return.
 289. Military Savings Banks—Account.
 294. Mr. Edmunds' Resignation—Lords Report.
 296. National Education (Ireland)—Return.
 301. Curragh of Kildare—Correspondence.
 China and Japan—Order in Council.
 National Education (Ireland)—Thirty-first Report of Commissioners.
 Public General Acts—Cap. 17 to 25.

Patents.

From Commissioners of Patents Journal, June 2nd.

GRANTS OF PROVISIONAL PROTECTION.

- Animal charcoal, revivification of—1336—G. H. Ogston.
 Animal charcoal—1409—K. Muller, A. T. Weld, and J. F. Powell.
 Bedsteads—1379—C. Copus.
 Bottles, flasks, stoppers, &c.—1320—S. T. Garrett.
 Bottles, securing corks or stoppers in—1373—R. A. Brooman.
 Calico printing—1420—J. Dale and A. Paraf.
 Cannon, rifling muzzle-loading—1332—W. Spence.
 Coal gas, purifying—1386—W. Davey.
 Cotton presses—1423—G. Ashcroft.
 Cotton-spinning—1383—T. Marsden.
 Dish-covers, &c., wire gauze—1401—D. Powis and H. Brittain.
 Distilling apparatus—1393—J. A. Coffey.
 Dust, apparatus for collecting—909—E. Leak.
 Electricity, production and application of—1412—H. Wilde.
 Envelopes—1416—H. Gibbs.

Fabrics, brocaded and ornamental, weaving—1312—D. Ellis and M. Hillas.

Fabrics, woven—1316—T. Smith and H. James.

Fire-arms, breech-loading, and cartridges—1308—J. R. Cooper.

Fire-arms, breech-loading—1382—S. Ebrall.

Gas-burners and chimneys—1334—W. Clark.

Gas meters—1395—W. Smith and G. Brown.

Goat's hair, application of in imitation of human hair—1367—H. Rushton.

Hats, fur or felt, machine for fulling—1314—E. L. Girard.

Horse-shoes—1025—W. Clark.

Hydraulic cranes—1421—H. A. Bonneville.

Iron girders, casting—1304—J. Goodwin.

Knitting machines—1397—E. Attenborough, S. Mellor, and G. Blackburn.

Land-cultivation, machinery for—1104—D. Greig.

Letter-clips—1354—H. E. Dixon.

Locks—1406—W. Hodson.

Locomotive engines—1358—W. Montgomerie.

Looms—1417—T. Calvert and D. Montgomerie.

Mangles—1418—H. Nunn.

Manumotive carriages—1388—G. Read.

Manure, liquid, apparatus for distributing—1369—C. S. Phillips.

Nitrogen and sulphur, obtaining compounds of—1385—T. Richardson and M. D. Rucker.

Oil, &c., raising from deep wells—1392—W. E. Newton.

Ovens for bread-baking—1346—J. Daughish.

Paper-hangings—1399—J. Wylie and J. Rew.

Photographing on wood, &c.—1174—W. H. Smith.

Pile-driving machinery—1378—W. Eassie.

Piles, machinery for cutting off the upper parts of—1408—G. Furness and J. Slater.

Ploughs—1326—J. Eddy.

Printing machines—1344—R. and H. Harrild.

Railways, communication between passengers and guard on—1322—W. Chubb and S. Fry.

Railways, securing rails on permanent way—1306—W. Tijou.

Refrigerators—1405—J. H. Johnson.

Saw-mills—1340—G. Eunis.

Screws and screw drivers—1387—A. V. Newton.

Screw-cutting apparatus—1411—E. McNally.

Sewing machines—1337—J. Laing.

Sewing machines—1384—H. de Mornay.

Sewing machines—1407—J. M. Clements.

Stays, corsets, &c., fastening supports of—1338—R. Langridge.

Steam cranes—1342—C. J. Appleby.

Time-pieces and clocks—1416—H. Adler.

Water-gauges and cocks—1350—A. Weir.

Weaving, power looms for—1307—W. Jamieson.

Yarn, machine for tying hanks of, previous to dyeing—1248—F. Caldwell.

Yarns, dyeing and sizing—1413—I. W., and J. Holt, and J. Maude.

INVENTION WITH COMPLETE SPECIFICATION FILED.

Cartridges, loading—1463—G. G. Bussey.

PATENTS SEALED.

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|----------------------------------|----------------------|
| 3020. J. G. Winter. | 3057. C. Oliver. |
| 3022. R. Tye. | 3060. C. Crockford. |
| 3027. J. Yearsley & E. Timbrell. | 3065. W. Tongue. |
| 3039. J. Keeling. | 3066. T. H. Roberts. |
| 3045. E. T. Hughes. | 3069. A. J. Sedley. |
| 3046. R. Richardson. | 3220. H. Johnson. |
| 3048. C. A. Martius. | 3230. G. Edwards. |
| 3051. A. Albert. | 197. J. B. Wood. |
| 3053. M. J. Roberts. | |

From Commissioners of Patents Journal, June 6th.

PATENTS SEALED.

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| 3055. J. Livesey and J. Edwards. | 3202. E. Leahy. |
| 3062. R. A. Brooman. | 3243. E. Shuffiebotham. |
| 3070. L. Morgenthau. | 3254. W. E. Newton. |
| 3071. J. Vaughan. | 1. W. Muir. |
| 3072. G. Rooper. | 37. J. C. Amos and W. Anderson. |
| 3075. E. Brooke. | 95. R. Chidley. |
| 3078. R. Mathers. | 596. W. R. Bowditch. |
| 3083. C. Kendall. | 725. H. Owen. |
| 3099. G. W. Bolding and G. M. Holman. | 786. J. H. Johnson. |
| 3100. J. G. Tongue. | 822. J. Tall. |
| 3169. M. Henry. | 856. J. Todd. |
| 3188. G. Haseltine. | 938. J. H. Johnson. |
| 3191. J. Paterson. | 981. J. H. Johnson. |
| 3197. E. Saunders. | 1128. J. Emary. |

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

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| 1637. A. Gilbey. | 1702. G. Hadfield. |
| 1663. J. Whitworth. | 1721. F. Glachosa. |
| 1684. G. B. Toselli. | 1745. J. Hetherington. |
| 1857. E. C. Nicholson. | 1678. G. Peel and J. Simpson. |
| 1899. P. M. Parsons. | 1703. W. E. Newton. |
| 1874. S. Weston. | 1707. W. R. Jeune. |
| 1877. A. H. Perry. | |

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

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| 1219. J. Young and J. Strang. | 1239. C. Wheatstone. |
| 1239. C. Wheatstone. | 1298. D. Moseley. |